

Abstract Submitted  
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**A study of the effect of electrical energy input on detonation failure in wedges of the TATB based explosive EDC35.** DARREN SALISBURY, RON WINTER, LESTER BIDDLE, AWE, Aldermaston, Reading, UK — Experiments have been conducted to investigate detonation failure in wedges of the Insensitive High Explosive EDC35 (95/5 TATB/Kel-F) with and without addition of external energy via an applied electrical field. The thickness of the plane wedges varied from 6mm to 1mm along a 100mm length with a height of 50mm. The wedge was initiated along a line at its thick edge. Streak photography was used to record the progression of the detonation wave from the thick end of the wedge and its subsequent failure towards the thin end of the wedge. Three experiments were conducted: 1) with no external electrical energy, 2) with input of 1.25 kJ from a 25kV pulsed power source applied to electrodes mounted in contact with the 50mm x 100mm faces of the wedge and 3) with input of 5kJ applied to the electrodes. Analysis of the streak records suggests that failure thickness was reduced.

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